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CENTRAL INTELLIGENCE AGENCY 25X1

# INFORMATION REPORT

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SUBJECT : Material Shortages in the Soviet Zone of Germany

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1. The industrial potential of the Soviet Zone of Germany is seriously hampered by an inadequate supply of raw materials, standard stock items, and finished products. Machinery and other equipment is frequently inoperative as a result of continual usage and improper maintenance. Needed machinery is often completely lacking as a result of Soviet dismantling operations. The Soviet practice of purchasing inferior products for maintenance and repairs in Soviet Zone industrial installations has contributed to the numerous production breakdowns.

2. the most critical shortage in the Soviet Zone is that of tubing and pipe. This shortage is due primarily to the lack of pipe rolling mills in the Zone.

25X1 the Soviets, when they realized how critical the pipe
25X1 shortage had become, returned the pipe rolling machinery to
25X1 Riesa, on the Elbe River, which they had previously dismantled and removed. At present, satisfactory pipe is not available for delivery to the Leuna Plant. As a substitute, Leuna found it necessary to install pipe fabricated from sheet iron. Manufacture of this pipe entailed rolling sheet iron, approximately five mm thick, into a cylinder and buttwelding the edges at 1100° C. Pipe manufactured by this method proved to be unsatisfactory because it could not withstand the pressures in the high-pressure boilers. Chemical deterioration of the boiler pipes is very rapid because of insufficient maintenance. High-pressure boiler pipe is usually made of steel, and in some cases, special alloyed steel is needed because of the extreme temperatures encountered.

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3. The supply of sheet metal in the Soviet Zone is grossly inadequate, and that which is produced is generally of poor quality. There are few sheet metal rolling mills in the Zone, and [redacted] 25X1 the Soviets are using most of the output from these mills for themselves. The deficiency of steel rolling 25X1 mills is so critical that the copper rolling mills at the Hettstedt copper plant, on the eastern slope of the Harz Mountains, were used to roll sheet steel. As a result of this use, the copper rolling mills were ruined, and the sheet steel produced was of low quality. The shortage of sheet metal is so severe at Leuna that in the last two years, four gas tanks have been erected from scrap metal salvaged from gas tanks which had been dismantled.

4. Special and alloyed steels are unavailable in the Soviet Zone, and there is no plant in the Zone currently engaged in producing such steel. The Soviet Zone of Germany is dependent upon the importation of Soviet steel, which, however, does not have the properties required for plant construction when special steel is needed. For example, for the reconstruction of the urea and nitric acid plants at Leuna, the Soviets have provided V-2-A 25X1 steel. However, [redacted] the operation of these two plants will be impaired by the poor quality of Soviet steel. A steel mill at Freital, near Dresden, which was completely dismantled in 1945, is to be reconstructed by the Soviets to produce high 25X1 quality steel. [redacted] the mill is not yet operational.

5. Zinc, lead and brass are critical items in the Soviet Zone. [redacted] a large amount of lead is used in the pro- 25X1 duction of base parts for Soviet railroad cars, and that a great amount of lead paint is supplied to shipbuilding plants for use 25X1 in the painting of accumulators for Soviet submarines. This may explain the lead scarcity, although this resource should be plentiful in the Soviet Zone.

6. The shortage of machine tools at Leuna is most acute; lathes, shapers, and rolling machines were removed from the Material 25X1 Testing Department and the main repair shop, when the Soviets dismantled Leuna in 1946. [redacted] 25X1 [redacted] 25X1 The inadequate supply of screws, 25X1 bolts, nuts and nails is so serious that the Soviet Zone plans to manufacture these items of cast iron rather than steel.

7. [redacted] sealing, packing and insulating materials will become increasingly scarce in the Soviet Zone. For example, gaskets capable of withstanding high pressures and used for the sealing of pipes are scarce, and those available are of poor quality. A few months ago, Head Engineer Guenther, who keeps records for the Soviets in the machine technological department 25X1 at Leuna, [redacted] the annual damage resulting from the use of poor packing and sealing materials in the plant amounted to DM 500 thousand. The Leuna 45-atmosphere boilers, purchased during World War I and among the first of such boilers produced in Germany, require 2000 gaskets. The boilers are soon in disrepair if the gaskets do not seal well, and the repair of one 45-atmosphere boiler costs DM 25 thousand.

8. The asbestos from which the packings are made is imported either from the West or the USSR. Although the Soviets have good quality asbestos, an insufficient quantity is imported to the Soviet Zone of Germany. The total amount of first quality asbestos imported, which consists of two cm fiber with good spinning qualities, amounts to 10-20 tons per year and is used almost exclusively for Soviet consumption. Most of it is allocated to the

Kabelwerk Oberspree (cable factory) in the Soviet sector of Berlin, where it is used to insulate transformers which are shipped to the USSR. The sealing materials made of second quality are fair; the asbestos has good spinning qualities and a fiber length of two cm, but is prickly and gaskets made of it abrade the pipe. Approximately 60 tons of second quality asbestos are imported annually. Second quality asbestos is used primarily for products which are to be exported. Approximately 300-500 tons of third quality asbestos are imported annually from the USSR, and subdivided into categories 3A, 3B, and 3C. It is an inferior product, consisting of 30-40% cotton, and therefore will not withstand the pressure in the steam boilers. Gaskets and packings made from this asbestos are soft and unable to sustain high temperatures. The lack of good asbestos sealing may severely damage the ammonia ovens. The packings for ammonia and methanol products must also act as electrical insulators, and for this reason, must be free of graphite and contain minimum amounts of rubber and cotton. Such packings are virtually unobtainable in the Zone. For the effective sealing of the machines in the copper-ammonium-sulfate plant and for sealing oxygen and methyl alcohol products, a special gasket is needed, having a lip with a coefficient of elasticity different from that of the rest of the ring. Production of these gaskets is impossible in the Soviet Zone, however, because the plants cannot solve the problem of manufacturing a gasket which is to have two different elasticities. The best gasket of this type is made by the Freudenberg Plant in the Western Zone. If Freudenberg should stop delivery, it would seriously impair production in the Soviet Zone of Germany. The asbestos packings produced in the Soviet Zone of Germany are made at "Kautas" (Rubber and Asbestos Plant) at Heidnau, south of Dresden. The plant operates with machinery confiscated from the Dankowiezl firm, which left the Soviet Zone and is now operating at Dortmund, in the Western Zone. "Kautas" is incapable of producing any of the specialized asbestos material needed at the Leuna Plant. As Chairman of the Sub-Committee for Soft Sealing Materials of the Commission of Standards, of the Chamber of Technology, [redacted] to keep the standards for soft sealing material high; [redacted] improving the standard pressure resistance of the sealing material from 130 kg/sq cm, but realize that this improvement is insufficient.

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9. The Leuna Plant is initiating production of superconcentrated hydrogen peroxide. For this purpose, a sealing material must be used which is acid-resistant. Before 1945, blue asbestos mixed with an oppanol resin was available in sufficient quantities, but now the supply is limited in the Zone because it must be imported. (Blue asbestos is a product of South Africa and oppanol is produced at Oppau, in the Western Zone.) The sealing products must be coarse, hard, and have abrasive properties. They must also be able to withstand high temperatures and be acid-resistant, especially resistant to sulfuric acid. When the last asbestos shipment from the West arrived at Leuna approximately six months ago, some blue asbestos was included. However, the blue asbestos was used for other types of packing because the lack of proper packing material was so critical.

10. The Soviet Zone of Germany has no good turbine oil of consistent quality. The synthetic Leuna oil, 2A, which has performed well under test, is still in the experimental stage at Leuna. It does not attack metals and has shown high resistance to saponification; however, the durability of the oil has not yet been established. This synthetic oil may prove superior to natural mineral oils, but the cost of production is still prohibitive. The daily pilot plant production of Leuna 2A oil is approximately one ton; a synthetic oil plant has not yet been constructed. Machine oils are of poor quality, but are not scarce in the Soviet Zone; in fact, three months ago, machine and motor oils were removed from the list of rationed goods. The synthetic rubber plant in Schkopau has started producing motor oils, buying the crude oil from the Lützkendorf Plant. By preparing the oil for Schkopau, Lützkendorf has seriously impaired the quality of its own hot steam oil because it diverted some of the components parts of the hot steam oil for use in the production of motor oils. Hot steam oil forms asphalt on the pipe surfaces and cylinders, and attacks the piston rings. A plant in Greiz (Soviet Zone) produces a synthetic motor oil of poor quality which foamed during tests in the Leuna compressor plant. The Lützkendorf oils are used

at Leuna as they are delivered, without additives or chemical treatment. Holland oils are still used at Schkopau, but the miscibility of this oil with other oils is poor.

11. Greases used in the lubrication of hot bearings are critically needed in the Soviet Zone. The viscosity of the base oils used for the production of such greases should be a minimum of 8.5. The requirements established by the Commission of Standards of the Chamber of Technology called for a base oil with a viscosity of only 6.5. Soft coal plants particularly criticized this grease because it ran out of the bearings. A factory at Zeitz announced the production of a synthetic grease which would contain a base oil of a high viscosity. Soviet Zone industry purchased the synthetic grease but in actual
25X1 usage it proved to be very unsatisfactory; [redacted] the viscosity of the base oil ranged from 1.8 to 3.8.

12. The oil used as a binding agent for paints is usually a linseed oil to which small quantities of litharge (lead monoxide) is added. The oil is produced at a plant in Magdeburg and shipped to a factory in Wittenberge, where it is boiled for use in paint. The linseed oil is adulterated by the addition of non-drying oils, thereby destroying its quick-drying properties. The scarcity of litharge in the Soviet Zone is attributed to the lead shortage. There is a sufficient supply of alkydal in the Zone, but because of improper processing of the raw materials, the alkydal is definitely inferior.

13. The shortage of paint pigments has become critical during the past year. Uerdingen (British Zone) and Leverkusen (British Zone) were the principal source of pigments imported in the Soviet Zone; however, pigments are produced in the Soviet Zone at Wolfen, Hettstedt, Eisleben, and Ohrduff. The lead pigments
25X1 produced in the Zone are of good quality, but very scarce; iron and zinc oxides are also in short supply and are of inferior grade. [redacted] the Leuna Plant will undertake large scale production of iron oxides; the pilot plant production of red iron oxide has been initiated, but the present cost of the
25X1 operation is prohibitive.

14. [redacted] the Soviet Zone of Germany is in great need of hydrogenation catalysts. In the summer of 1951, [redacted] analyze a
25X1 shipment of iron oxide to determine the possible presence of molybdenum or tungsten, which are used in such catalysts. The analysis proved to be negative,
25X1 which was a keen disappointment to the head of the research laboratory at Leuna. The Leuna Plant is virtually the sole manufacturer of catalysts in the Soviet Zone, and [redacted] the shortage of
25X1 hydrogenation catalysts is acute.

15. The scarcity of rail equipment has seriously affected the rail transportation system in the Soviet Zone of Germany. [redacted]
25X1 [redacted]. Rail is produced at Unterwellborn and Hennigsdorf, but [redacted] the output from these plants is for export to
25X1 the USSR exclusively. All of the railroads [redacted] with one exception, were
25X1 single-tracked; the rails which formerly constituted the second track have been removed. The rails are so badly worn and the roadbeds are in such poor condition that trains can average only 15-20 miles per hour on the heavily traveled roads. Rolling stock is badly in need of repair, and maintenance is neglected. Spare parts are frequently obtained by the cannibalization of other
25X1 equipment, because the proper materials are not available to manufacture new parts. [redacted] the Soviet Zone rail transportation system would
25X1 not enable the Soviets to launch an attack through the Soviet Zone of Germany.

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